

1. A method of producing a vacuum insulated article, comprising the steps of forming a core of microporous material, forming a partially sealed bag of flexible gas impermeable film, extending the film to form a tubular evacuation portion of the bag, positioning the core within the bag, sealing the bag to form an air-tight enclosure around the core, evacuating the bag and the core with a tubular nozzle projecting into the tubular evacuation portion of the bag and connected to a vacuum pump, and sealing the tubular evacuation portion of the bag after the core and bag are evacuated to a predetermined vacuum level.
2. A method as defined in claim 1 and including the step of forming a plurality of evacuation grooves within an outer surface of the foam core, and with each groove having a depth substantially greater than its width.
3. A method as defined in claim 1 wherein the tubular evacuation portion of the bag defines an evacuation passage having a circular cross-section.
4. A method as defined in claim 1 and including the step of sensing the vacuum level within the bag while evacuating the bag and before the tubular evacuation portion is sealed and while the vacuum pump is disconnected to the bag.
5. A method as defined in claim 1 and including the step of bonding a layer of foam material on the bag to form a protective outer surface for the article.
6. A method as defined in claim 1 and including the step of forming a cavity within an end surface of the core in opposing relation to the tubular evacuation portion of the bag, and retaining a porous spacer member within the cavity for preventing contact of the tubular nozzle with the foam core.

7. A method as defined in claim 1 and including the step of surrounding the tubular nozzle with a resilient O-ring for engaging the tubular evacuation portion of the bag to form a fluid-tight releasable coupling.
8. A method as defined in claim 1 and including the step of forming a plurality of closely spaced grooves within opposing side surfaces of a generally flat foam core panel to provide for bending the evacuated panel without rupturing the bag enclosing the panel.
9. A method as defined in claim 1 wherein the core is formed as a box defining an open end chamber, and forming the bag with a closed end portion which is sucked into the open end chamber while evacuating the core and bag.
10. A method as defined in claim 9 wherein the bag is formed with a length generally twice the corresponding length of the core box.
11. A method as defined in claim 9 including the step of forming a plurality of parallel spaced grooves within outer surfaces of the core box to define evacuation passages.
12. A method as defined in claim 9 wherein the core box is formed by joining four generally flat foam core side panels and a generally flat foam core end panel connected to the side panels.
13. A method of producing a vacuum insulated article, comprising the steps of forming a core of microporous material, forming a partially sealed bag of flexible gas impermeable film, inserting the core into the bag, sealing the bag to form an air-tight enclosure around the core,
5 evacuating the bag and the core, sealing a remaining portion of the bag after the core and bag are evacuated to a predetermined vacuum level, applying a layer of foam material in a fluid state to an exterior surface of the bag, and said curing the layer to form a protective outer surface for the article.

14. A method as defined in claim 13 wherein the layer of foam material is formed with a thickness within a range of .060 inch and .250 inch.
15. A method as defined in claim 13 wherein the foam material is applied as a liquid layer of closed cell polyurethane foam.
16. A method as defined in claim 13 and including the step of bonding the layer of foam material on the bag completely around the bag.
17. A vacuum insulated article comprising a core of microporous material, a sealed bag of flexible gas impermeable film enclosing said core, said bag having a projecting tubular evacuation portion adapted to receive a tubular nozzle connected to a vacuum pump, and said tubular evacuation portion of said bag being sealed after the core and bag are evacuated to form an air-tight enclosure for said evacuated core.
- 5 18. An article as defined in claim 17 and including a plurality of parallel spaced grooves within an outer surface of said core, and each said groove has a depth substantially greater than its width.
19. An article as defined in claim 17 and including a plurality of closely spaced grooves within opposing side surfaces of a generally flat foam core panel forming said core to provide for bending the evacuated panel without rupturing said bag enclosing said panel.
20. An article as defined in claim 17 wherein said core comprises a foam core box defining an open end chamber, and said bag has a sealed end portion extending into said open end chamber of said box.
21. An article as defined in claim 20 and including a plurality of spaced grooves within outer surfaces of said foam core box to define evacuation passages.

22. A vacuum insulated article comprising a core of microporous support material, a sealed bag of flexible gas impermeable film enclosing said core, said bag being evacuated and forming an air-tight enclosure for said evacuated core, a layer of foam material applied and bonded in a fluid state to an outer surface of said bag, and said layer of foam material being cured and forming a protective outer surface for the article.

23. An article as defined in claim 22 wherein said layer of foam material has a thickness within a range of .060 inch and .250 inch.

24. An article as defined in claim 22 wherein said layer of foam material comprises a layer of closed cell polyurethane foam.

25. An article as defined in claim 22 wherein said layer of foam material extends completely around said bag.